

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

A minor formal change is made to the specification.

Claims 1 and 3-8 are present in this application. Claim 1 is amended and claims 2 and 3 are canceled by of the present amendment .

Under 35 U.S.C §103(a), claims 1, 4-6 and 8 are rejected over US 5,990,016 (Kim et al.) in view of US 5,565,036 (Westendorp et al.) and US 6,089,181 (Suemasa et al.), claim 2 is rejected over Kim et al. in view of Westendorp et al. and Suemasa et al., and further in view of US 5,342,471 (Fukusawa et al.), claim 3 is rejected over Kim et al. in view of Westendorp et al., Suemasa et al., Fukusawa et al., further in view of US 5,298,466 (Brasseur), and claim 7 is rejected over Kim et al. in view of Westendorp et al. in view of Suemasa et al., further in view of US 5,707,486 (Collins).

The present invention is directed to a plasma processing apparatus having a vacuum chamber and top and bottom electrodes. A processing gas apply mechanism supplies a processing gas into the vacuum chamber. The apparatus further includes first and second radio-frequency power sources with respective first and second frequencies, where the second frequency is lower than the first frequency. A first power feeder has a first matching device that performs impedance matching for the radio-frequency power supplied from the first power source to the bottom electrode and a second power feeder has a second matching device, structured as a separate body from the first matching device, to perform impedance matching for the radio-frequency power supplied from the second power supply to the bottom electrode. The bottom electrode is supported on an insulated plate and a space is formed between the insulated plate and the bottom portion of the vacuum chamber. The first matching device is disposed in the space. Such an apparatus has several advantages, one of which being that the matching devices are structured separately and the first matching device

can be disclosed in the space, located close to the bottom electrode. This makes it possible to reduce impedance and reduce inductance and capacitance components associated with feeding power to the bottom electrode.

Turning now to the prior art rejections, the Office Action correctly finds on page 6 that none of Kim et al., Westendorp et al., Suemasa et al. and Fukasawa et al. disclose or suggest a first matching device disposed in a space in the chamber. The Office Action looks to Brasseur to teach a plasma processing apparatus having a matching device disposed in a space in the chamber. However, Brasseur fails to disclose or suggest such an apparatus.

In Brasseur, the matching network 6 is disposed in an exhaust pipe leading from the chamber 1 to the vacuum pump 8. Although Brasseur does not mention in the written text that the reference numeral "8" designates a vacuum pump, it is apparent to a person skilled in the art that the reference numeral "8" designates the vacuum pump. Matching network 6 is clearly not located between an insulated plate and the bottom of a vacuum chamber, as recited in claim 1. Moreover, there is no mention in Brasseur of any advantages of the location of the network 6. An apparatus having a first matching device disposed in the space formed between the insulator plate and a bottom portion of the vacuum chamber, as recited in claim 8, is not disclosed or suggested by Brasseur.

As Brasseur does not disclose or suggest an apparatus having the matching device disposed in a space, and it was already correctly found that the other cited references also do not disclose or suggest such an apparatus, it is respectfully submitted that claim 1 is patentably distinguishable over the applied prior art. Claims 4-8, dependent from claim 1, are also patentably distinguishable over the applied prior art.

It is respectfully submitted that the present application is in condition for allowance, and a favorable decision to that effect is respectfully requested.

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